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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,494	10/23/2006	Frank Dietsche	12810-00237-US1	1545
23416 7590 03/16/2010 CONNOLLY BOVE LODGE & HUTZ, LLP P O BOX 2207 WILMINGTON, DE 19899				
EXAMINER				
JACKSON, MONIQUE R				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
03/16/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/595,494

**Applicant(s)**

DIETSCHE ET AL.

**Examiner**

Monique R. Jackson

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 1/4/10

**DETAILED ACTION**

1. The amendment filed 1/4/10 has been entered. Claims 1-24 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8 and 9 recite the limitation "the water-soluble polymer (P)" however Claim 1 as well as the specification refers to the water-soluble polymer as "(A)" and hence it is unclear whether the water-soluble polymer (P) is the same as the water-soluble polymer or copolymer (A) or a different or additional water-soluble polymer or copolymer.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by Sohl (USPN 2,838,421.) Sohl teaches an acidic water-soluble composition comprising noncrosslinked polyacrylic acid (reads upon a water-soluble polymer comprising at least 50% by weight of acrylic acid units), a hydroxyl-polyalkylene elasticizer component, and a small portion of a

water-soluble cross-linking agent such as diglycidyl ether of diethylene glycol having an epoxy equivalence of about 135 (*reads upon the claimed crosslinker including the claimed molecular weight and solubility*), dissolved in water or a volatile hydroxylated water-soluble organic solvent such as methanol or similar alcohol (Entire document, particularly Col. 5, lines 44-51.)

6. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 163 151 A (EP '151.) EP'151 teaches a crosslinked water absorbent carboxylic polyelectrolyte formed by an acidic, aqueous formulation comprising a polyelectrolyte such as polyacrylic acid and a water soluble crosslinking agent which is a relatively low molecular weight compound having at least two 1-aziridinyl groups, dissolved in water (Abstract; Page 2, lines 20-33; Page 7-Page 8, line 3.) EP'151 teaches that the crosslinking agent preferably has a molecular weight less than 1000 with example crosslinking agents reading upon the claimed crosslinker including those inherently have a water solubility as claimed, particularly the triaziridine based on trimethylolpropane tripropionate (Pages 5-6; Examples.)

7. Claims 18-20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Martorano et al (USPN 4,126,595.) Martorano et al teach an aqueous coating composition comprising 1) an aqueous solution of a high molecular weight carboxylic acid-containing acrylic copolymer, 2) a solution of a carboxylic-acid containing acrylic oligomer, and 3) an aqueous solution of a water-soluble crosslinking agent; in a solvent comprising 70 to 95% water; wherein Martorano et al specifically teach crosslinking agents that read upon the claimed crosslinker including the claimed molecular weight and water solubility (Abstract; Col. 9, line 25-Col. 11.) Martorano et al further teach that the acrylic oligomers comprises about 9 to about 50% by weight acid groups with an example comprising 54wt% (Claims 4-7, Example B5.) Martorano

et al teach that the formulation can be applied by roll coating on various substrate materials including unprimed or prime-coated metals such as iron, steel, chrome-plated steel, tin-plated steel, aluminum, copper, bronze or brass surfaces, and then baked to form a coating having a preferred thickness 0.05 to 5 mils (*overlaps the claimed thickness*; Col. 12, lines 8-64.)

Martorano et al teach that the crosslinker is preferably provided in an amount of 5 to 50% of the binder solids by weight with the remaining being a blend of 5-75% of the oligomer and 25-95% of the high molecular weight polymer (hence reading upon the claimed crosslinker to acid copolymer ratio; Col. 13, lines 50-63.) With respect to the limitation "acidic", the Examiner notes that the formulation taught by Martorano et al is inherently acidic prior to adjusting the pH as taught by Martorano et al with volatile base. With respect to the limitation "substantially chromium-free", the Examiner notes that Martorano et al do not include chromium or chromium compounds in the coating composition and hence it reads upon the term "chromium-free". With respect to the terms "for passivating metallic surfaces" and "passivating layer", the Examiner notes that these terms do not further limitation the composition or coating layer in a manner to differentiate it from the teachings of Martorano et al. In terms of product claims 18-20, though Martorano et al teach that the aqueous composition is provided as an alkaline solution, Martorano et al teach that the baking operation effects decomposition of the ammonium or amine salts of the polymeric carboxylic acids, releasing the acid form of the copolymer which then reacts with the other components, hence, the final end product taught by Martorano et al appears to be the same final end product as instantly claimed.

***Claim Rejections - 35 USC § 103***

8. Claims 1-2, 5-17, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martorano et al (USPN 4,126,595.) The teachings of Martorano et al are discussed above. Though Martorano et al teach that the coating composition is alkaline, Martorano et al provides a suggestion that an acidic composition can be utilized where an aminoplast is not present given the teachings at Col. 13, lines 24-43 and the fact that an aminoplast, though a preferred crosslinking agent, may be replaced by the polyepoxides or polyaziridines as claimed in the instant invention and specifically taught by Martorano et al (Col. 9, lines 25-36; Col. 9, line 58-Col. 11.) Martorano et al also teach examples utilizing a continuous coating process at coating speeds that would read upon the claimed contact times (Examples) or one having ordinary skill in the art at the time of the invention would have been motivated to determine the optimum contact times to provide the desired coating thickness for a particular end use. In terms of Claims 15 and 22, though Martorano et al teach that the coating composition can be applied to unprimed and coated metal substrates including steel, Martorano et al do not specifically teach galvanized steel or Zn coated steel as instantly claimed. However, galvanized steel is an obvious species of steel substrate, functionally equivalent to those taught by Martorano et al, and would have been obvious to one having ordinary skill in the art at the time of the invention. With regards to Claim 21, Martorano et al teach that the coating composition can be provided as a clear top coat to protect other coating layers or as a pigmented coating wherein the addition of other paint layers such as a transparent top coat would have been obvious to one having ordinary skill in the art at the time of the invention. Further, given that Martorano et al teach that the coating can be applied by a spraying method to the desired thickness, one skilled in the art would

recognize that a paint layer of the coating taught by Martorano et al applied by a spraying method could be equated to numerous coating layers with a total thickness equal to the desired thickness of the final coating.

9. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (USPN 6,514,357) in view of Martorano et al or Tada et al teach a chromium-free, corrosion resistant composition for metal surface treatment and surface treated metallic material wherein the composition comprises an aluminum ion, a magnesium ion, a manganese ion, a water-soluble organic resin, an acid, water, and optionally a coupling agent having at least one reactive group such as an epoxy group (Abstract; Col. 3, lines 58-60.) Tada et al teach that the water-soluble organic resin is preferably a polymer or copolymers comprising at least 40% by weight or more of carboxylic monomers such as (meth)acrylic acid, cronic acid, maleic acid, itaconic acid, with acrylic acid and methacrylic acid being preferable; with example water-soluble copolymers comprising acrylic acid and another acid monomer other than the acrylic acid (Col. 4, line 34 - Col. 5, line 14; Examples.) Tada et al teach that the acid is preferably phosphoric acid, acetic acid, nitric acid or hydrofluoric acid (Col. 3, lines 44-49.) Tada et al teach that the metal substrate is preferably a zinc-type plated steel sheet such as electrolytic or hot-dip galvanized steel (Col. 3, lines 60-64; Col. 7, lines 58-Col. 8, line 4.) Tada et al teach that the coating can be applied by roll coating, spray coating, brush coating, dip coating, or curtain flow coating, and then heated and dried to cure the coating to form a film having a thickness of 0.1 to 2.0 microns (Col. 8, lines 5-20.) Tada et al teach that the corrosion resistance of the coating is improved by increased pseudo-crosslinking and also teach that the coating can comprising a coupling agent having at least one functional group such as an epoxy group but do not specifically teach the

instantly claimed epoxy crosslinking agent. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize a coupling or crosslinking agent having more than one epoxy group, or known epoxy crosslinking agents or known functionally equivalent crosslinking agents in the art wherein the claimed crosslinking agents are known water-soluble crosslinking agents utilized in similar metal coating compositions as taught by Martorano et al, including the oxirane and azirane crosslinking agents as claimed, and hence would have been obvious to one having ordinary skill in the art at the time of the invention given the predictable results and reasonable expectation of success, wherein one skilled in the art would have been motivated to utilize routine experimentation to determine the amount or ratio of crosslinking agent to acid copolymer to provide the desired crosslinking properties for a particular end use. With respect to the contact time as recited in Claim 17, one having ordinary skill in the art at the time of the invention would have been motivated to determine the optimum contact time to provide a coating having the desired thickness for a particular end use wherein given that Tada et al teach a coating thickness as claimed, the claimed contact times would have been obvious. With respect to Claim 21, the addition of paint layers on top of a corrosion resistant pretreatment layer would have been obvious given the teachings of Tada et al that the treated metal can be utilized in place of chromate-treated metal in convention applications.

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.



11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/  
Primary Examiner, Art Unit 1794  
March 15, 2010